U1D7 WS Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Per \_\_\_\_\_\_\_\_\_

Describe in words how the parent function is moving.

1. F(x) = (-2 (x-3))2 + 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

2. F(x) = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3. 3F(2(x-2))+1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

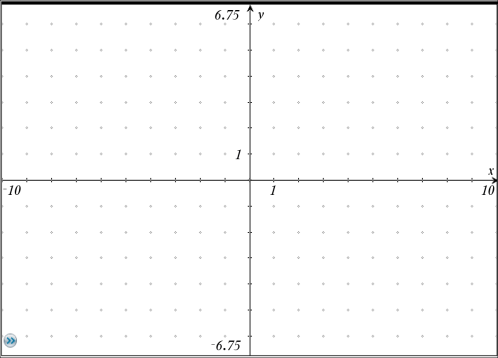
4. F(x) = - ( x+2)3- 4 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. F(x) = 3x - 1 \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

State the parent function and graph the three critical points. Then with another color move the points according to the transformation and graph it.

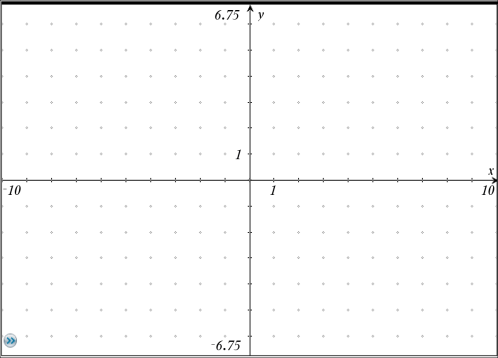
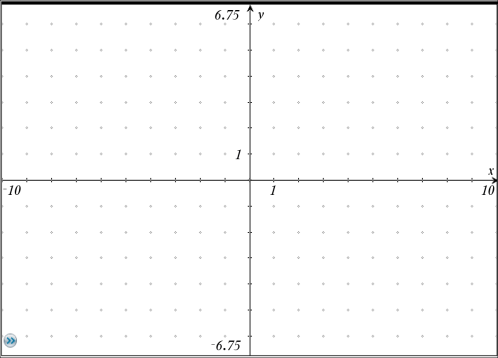
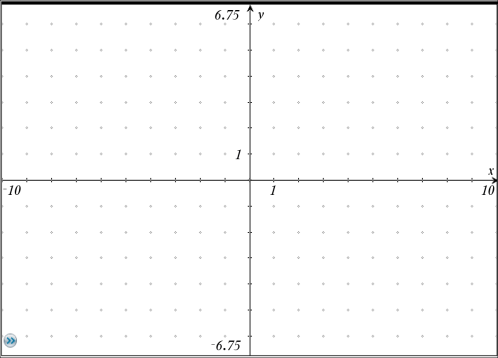
6. F(x) = - (2(x - 1))3 -2 7. F(x) =+1 8. F(-

parent \_\_\_\_\_\_\_\_\_\_\_\_ parent \_\_\_\_\_\_\_\_\_\_\_\_ parent

9. F(3x)-1 10. F(x) = 2x + 1 11. F(x) =-1

parent x2 parent \_\_\_\_\_\_\_\_\_\_\_\_ parent \_\_\_\_\_\_\_\_\_\_\_\_

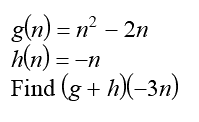
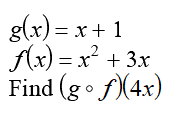
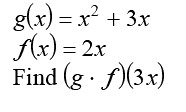
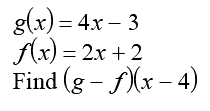


Use the following description to write the equation with the transformations.

12. parent: f(x) = x3 13. parent: f(x) = 14. parent: f(x) = x2

right 2, down 1, left 1, down 2, down 3, reflect x-axis

reflect over the x-axis horizontal stretch of 3 vertical shrink of



15. 16. 17. 18.